

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-20. Canceled

21. (New) Gear change mechanism for a gearbox in which changes of gear ratio in the gearbox are made mechanically in response to actuating signals,

the mechanism including first and second actuator assemblies each connected to a gearbox gear change selector,

the selector being movable about an axis and in the direction of said axis to a plurality of positions for effecting changes of gear in the gearbox,

the first actuator assembly being arranged to move the selector in said axial direction between a plurality of axial positions,

the selector having a radially outwardly directed arm,

the second actuator assembly being directly drivingly connected to said arm to transmit reciprocal movement of the actuator to provide rotational movement of the selector about said axis between a plurality of rotational positions,

each of the first and second actuator assemblies including a cylinder, a shaft located in the cylinder and drivingly connected to the selector, and a piston located about said shaft for movement axially of said shaft, and

in each case the cylinder shaft and piston together define chambers into which pressure fluid is selectively introduced so that the shaft is movable to at least three different axial positions,

wherein the shaft of the first actuator is substantially perpendicular to the shaft of the second actuator, and the gear change mechanism comprises two fluid control valves being selectively operable to admit fluid to the chambers and thereby move the shaft.

22. (New) A gear change mechanism according to claim 21 wherein the shaft of each actuator assembly is moveable between the at least three positions which include two end positions and a position intermediate the ends.

23. (New) A gear change mechanism according to claim 22 wherein, when the shaft of each actuator assembly is movable to the three positions, the intermediate position is at substantially equal spacings from the end positions.

24. (New) A gear change mechanism according to claim 22 wherein there are at least two intermediate positions providing at least four positions of each shaft, and the positions are regularly spaced between the end positions.

25. (New) A gear change mechanism according to claim 21 wherein the cylinder shaft and piston provide four chambers within the cylinder, and each chamber is connectable to a source of pressure fluid, connection being selectable to effect movement of the shaft to any one of said positions.

26. (New) A gear change mechanism according to claim 25 comprising an inlet to admit pressure fluid to said chambers, fluid being admitted to said first pair of chambers to locate said shaft in an intermediate position, fluid being admitted to one of said second pair of chambers to move the shaft towards one or other end of the cylinder.

27. (New) A gear change mechanism according to claim 26, wherein the annular pistons are each located about an associated, reduced-section portion of the shaft and each piston is movable axially of the shaft in limited extent which is defined by the length of the reduced-section portion.

28. (New) A gear change mechanism according to claim 27 wherein the length of the reduced-section portions towards each end of the shaft is different.

29. (New) A gear change mechanism according to claim 25 wherein said chambers are arranged to define a first pair of chambers at opposite ends of the cylinder,

and each chamber of the pair being defined by the shaft, one end of an annular piston located around the shaft and the associated end of the cylinder.

30. (New) A gear change mechanism according to claim 29, wherein the chambers are arranged to define a second pair of chambers and each chamber of the second pair is defined by the shaft, by the opposite end of the annular piston and by a part of the cylinder located inwardly of the ends of the cylinder.

31. (New) A gear change mechanism for a gearbox in which changes of the gear ratio in the gearbox are made mechanically in response to actuating signals,
the mechanism including first and second actuator assemblies each connectable to a gearbox gear change selector, the selector having a radially outwardly directed arm, the second actuator assembly being directly drivingly connected to said arm to transmit reciprocal movement of the actuator to the selector, the gear change selector being rotatable about an axis and being movable in the direction of said axis to a plurality of positions for effecting changes of gear ratio in the gearbox,

the first actuator assembly including a cylinder and a shaft, being movable relative to the cylinder between end positions and an intermediate position between the ends, to rotate the selector about its axis,

a second actuator assembly including a cylinder and a shaft, the shaft being movable relative to the cylinder between the opposite end positions and two positions

intermediate its ends, thereby to move the selector to any one of four positions in its direction along said axis, wherein the shaft of the first actuator is substantially perpendicular to the shaft of the second actuator, and two fluid control valves control the movement of the shaft.

32. (New) A gear change mechanism according to claim 31 wherein the actuator assemblies each include a pair of annular pistons located about the associated shaft and four fluid chambers are defined within the associated cylinder between the shaft, the annular pistons, and the cylinder and each chamber is connectable to a source of pressure fluid.

33. (New) A gear change mechanism according to claim 32 wherein said chambers are arranged to define a first pair of chambers at opposite ends of the cylinder, each chamber of said first pair being defined by the shaft, one end of one of the pair of annular pistons and the associated end of the cylinder.

34. (New) A gear change mechanism according to claim 33 wherein a second pair of chambers is located within the cylinder and each chamber of the second pair is defined by the shaft by the opposite end of one of the annular pistons, and by a part of the cylinder located inwardly of the ends of the cylinder.

35. (New) A gear change mechanism according to claim 34 wherein, during operation, there is a constant supply of pressure fluid to both of said second chambers.

36. (New) A gear change mechanism according to claim 34 wherein pressure fluid is admitted to both said second chambers and not to either of said first chambers, to move the shaft to the other of said intermediate positions.

37. (New) A gear change mechanism according to claim 33 wherein the shaft is movable towards one end of the cylinder by the admission of fluid to one of the pair of first chambers situated at the opposite end of the shaft to said one end, to provide two end positions of the shaft.

38. (New) A gear change mechanism according to claim 33 wherein the shaft is movable towards one of said two intermediate positions by admitting fluid to both said first chambers.